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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/970,472	10/03/2001	Michael Sugarman	6053/CMP/CMP/RKK	1155
32588	7590	09/09/2004	EXAMINER	
APPLIED MATERIALS, INC. 2881 SCOTT BLVD. M/S 2061 SANTA CLARA, CA 95050			COLE, LAURA C	
			ART UNIT	PAPER NUMBER
			1744	
DATE MAILED: 09/09/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/970,472	SUGARMAN, MICHAEL	
	Examiner	Art Unit	
	Laura C Cole	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 August 2004 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being obvious over Stephens et al., USPN 5,875,507 in view of Fishkin et al., USPN 6,202,658.

The applied reference (Fishkin et al.) has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not

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claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Stephens et al. disclose the claimed invention including a plurality of rollers adapted to support a substrate in a vertical orientation along a diameter or radius (32, 34), a scrubber brush adapted to contact a substrate (26, 28), and a nozzle at an elevation below that of the scrubber brush (57,59) adapted to spray fluid to a beveled edge of the vertically oriented substrate located below the sonic nozzle (see Figure 6), wherein the nozzle is angled so as to direct the sonicated fluid spray towards the vertically oriented substrate and *portions of spray is directed away* from the scrubber brush as Figure 6 displays the nozzles are not directed towards the brush, but towards the substrate since the nozzles are pointed at what appears to be ninety degrees to the vertical plane of the substrate. The fluid of Stephens et al. is directed off the substrate by gravity (Abstract, Lines 8-10) and contacts an edge of the substrate between rollers (see Figure 6). The scrubber brush is made of PVA foam, which is sponge-like (Column 3 Lines 16-21) and the brush is adapted to contact a substrate supported by rollers

along at least a portion of the diameter of the surface (see Figure 6). Stephens et al. do not disclose that the nozzle is sonic.

Fishkin et al. comprise a plurality of rollers adapted to support a substrate in a vertical orientation along a diameter and radius (55a-cl; Figure 5), a scrubber brush adapted to contact a substrate (51a,b), and a sonic nozzle in order provide superior edge cleaning with minimal cleaning fluid, and for part longevity (Column 2 Line 47 to Column 3 Line 9).

It would have been obvious for one of ordinary skill in the art to modify the nozzle of Stephens et al. in order to provide a sonic nozzle, such as Fishkin et al. teach, so that the cleaning solution is minimized, that the nozzle parts last longer, and for an overall better cleaning

3. Claims 1-3 and 6 are rejected under 35 U.S.C. 103(a) as being obvious over Stephens et al., USPN 5,875,507 in view of Fishkin et al., USPN 6,202,658 and in further view of Moinpour et al., USPN 5,868,857.

Stephens et al. and Fishkin et al. disclose all elements above, however they do not include that the apparatus treats a substrate having a beveled edge.

Moinpour et al. teach a wafer edge cleaning device that is for cleaning the edges and/or bevel edges of substrates (see Abstract Lines 1-2).

It would have been obvious for one of ordinary skill in the art to substitute the substrate of Stephens et al. and Fishkin for one having a beveled edge, as Moinpour et al. teach, since substrates with beveled edges also need special cleaning and treating to the edges.

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4. Claims 1-3 and 7-9 are rejected under 35 U.S.C. 103(a) as being obvious over Moinpour et al., USPN 5,868,857 in view of Fishkin et al., USPN 6,202,658.

Moinpour et al. disclose all elements above and also includes a plurality of rollers (510) *that are capable of* supporting a substrate vertically in a vertical orientation, a scrubber brush (504, 506) that is adapted to contact the substrate (502), a nozzle (535) positioned at an elevation below the scrubber brush and adapted to output fluid spray that contacts a beveled edge (Column 4 Lines 61-64) of the oriented substrate located below the sonic nozzle so that the fluid will not contact the scrubber brush (see Figure 5B), wherein the nozzle is angled to direct the fluid spray towards the substrate and away from the brush (see again Figure 5B). Moinpour et al. teaches a wafer edge cleaning device that is for cleaning the edges and/or bevel edges of substrates (see Abstract Lines 1-2). The sonicated fluid is directed off the substrate (Column 4 Lines 64-67). The scrubber brush is adapted to contact a substrate supported by rollers at least a portion of a diameter of the substrate (see Figure 5B). Moinpour et al. does not disclose that the nozzle is sonic.

Fishkin et al. comprise a plurality of rollers adapted to support a substrate in a vertical orientation along a diameter and radius (55a-cl; Figure 5), a scrubber brush adapted to contact a substrate (51a,b), and a sonic nozzle in order provide superior edge cleaning with minimal cleaning fluid, and for part longevity (Column 2 Line 47 to Column 3 Line 9).

It would have been obvious for one of ordinary skill in the art to modify the nozzle of Moinpour et al. in order to provide a sonic nozzle, such as Fishkin et al. teach, so that

the cleaning solution is minimized, that the nozzle parts last longer, and for an overall better cleaning.

Applicants Arguments

5. In the response filed 27 August 2004, the Applicant contends that:

A. The combination of Redeker, Konishi, and Moinour do not disclose or suggest the apparatus comprising a sonic nozzle positioned at an elevation below the elevation of the scrubber brush and adapted so that the spray that contacts *a beveled edge of the vertically oriented substrate located below the sonic nozzle*.

B. The combination of Stephens, Fishkin, and Moinpour do not disclose or suggest the apparatus comprising a sonic nozzle positioned at an elevation below the elevation of the scrubber brush and adapted so that the spray that contacts a beveled edge of the vertically oriented substrate located below the sonic nozzle and that the sonic nozzle is angled so as to direct the sonicated fluid spray towards the vertically oriented substrate and away from the scrubber brush.

Response to Arguments

6. Applicant's argument A, filed 27 August 2004, with respect to the 35 USC 103(a) rejection to the combination of Redeker, Konishi, and Moinpour have been fully considered and are persuasive. The rejection of Redeker in view of Konishi and in further view of Moinpour has been withdrawn.

7. Applicant's argument B, with respect to Stephens et al., Fishkin et al., and Moinpour, has been considered but are moot in view of the new ground(s) of rejection.

The new grounds of rejection, above, have been made to Stephens et al. in view of Fishkin et al. As stated above, Stephens et al. does include a nozzle at an elevation below that of the scrubber brush (57,59) adapted to spray fluid to a beveled edge of the vertically oriented substrate located below the sonic nozzle (see Figure 6), wherein the nozzle is angled so as to direct the sonicated fluid spray towards the vertically oriented substrate and *portions of spray is directed away* from the scrubber brush as Figure 6 displays the nozzles are not directed towards the brush, but towards the substrate since the nozzles are pointed at what appears to be ninety degrees to the vertical plane of the substrate.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C Cole whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J Warden can be reached on (571) 272-1281. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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03 September 2004

Robert J. Warden, Sr.
ROBERT J. WARDEN, SR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700